

REMARKS

In the outstanding Final Office Action, the Examiner rejected claims 1-15, and 23 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,583,934 to Kramer (“Kramer”); and rejected claim 23 under 35 U.S.C. § 103(a) as being unpatentable over a combination of Kramer and U.S. Patent Application Publication No. US 2003/0067645 to Ibsen et al. (“Ibsen”).

By this amendment, Applicants have amended claim 1. Claims 1-15 and 23 remain pending in this application.

Regarding the rejection of claims 1-5 and 23 under 35 U.S.C. § 103(a), Applicants respectfully disagree with the Examiner’s arguments and conclusions as set forth in the outstanding Office Action¹. Accordingly, Applicants respectfully traverse this rejection.

To establish a *prima facie* case of obviousness under 35 U.S.C. §103(a), each of three requirements must be met. First, the reference or references, taken alone or combined, must teach or suggest each and every element recited in the claims. Second, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine the references in a manner resulting in the claimed invention. Third, a reasonable expectation of success must exist. Moreover, each of the three requirements must “be found in the prior art, and not be based on applicant’s disclosure.” *See MPEP § 2143, 8th Ed. (Rev. 4), October, 2005.* At a minimum, the Examiner has failed to show that the references teach or suggest each and every element required by the claims.

¹ The Office Action contains a number of statements reflecting characterizations of the related art and the claims. Regardless of whether any such statement is identified herein, Applicant declines to automatically subscribe to any statement of characterization in the Office Action.

For example, Kramer fails to teach or suggest a combination including at least “a single molded piece comprising an integrated first section, second section, third section, and diffraction grating,” as recited in amended claim 1.

At page 5 of the Office Action, the Examiner states:

[integrally formed] using a molding process has not given a patentable weight by the examiner because as stated in the MPEM [sic] 2144.04, such as section V.B does not warrant patentability based on integrally forming a device, such as by molding process.

A closer reading of the cited section of the MPEP, however, reveals that the Examiner’s statement is not entirely correct. The cited section further states:

but see *Schenk v. Nortron Corp.* ... [c]laims were directed to a vibratory testing machine ... comprising a holding structure, a base structure, and a supporting means which form “a single integral and gaplessly continuous piece” [wherein] [t]he court ... held that the claims were patentable because the prior art perceived a need for mechanisms to dampen resonance, whereas the inventor eliminated the need for dampening via the one-piece gapless support structure, showing insight that was contrary to the understandings and expectations of the art. MPEP § 2144.04 V B, 8th Ed. (Rev. 4), October, 2005 (internal citations omitted).

Similarly, here Applicants have perceived a need for making integral the first section, the second section, the third section, and the diffraction grating to eliminate the steps of alignment throughout the optical system. *See* Applicant’s specification, at e.g., paragraph [40]. Accordingly, Applicants respectfully submit that “a single molded piece comprising an integrated first section, second section, third section, and diffraction grating,” as recited in claim 1, shows insight that may be contrary to the understandings and expectations of the art, and thus should be given its proper and deserved patentable weight.

The Examiner further states at page 5 of the Office Action:

further the presence of process limitations on product claims, which product does not otherwise patentably distinguish over prior art, cannot impart patentability to the product.

Applicants respectfully disagree with the Examiner's assertion. With respect to the "single molded piece comprising an integrated first section, second section, third section, and diffraction grating," as recited in amended claim 1, Applicants respectfully direct the Examiner's attention to MPEP § 2113, which states:

[t]he structure implied by the process steps should be considered when assessing the patentability of product-by-process claims over the prior art, especially where the product can only be defined by the process steps by which the product is made or where the manufacturing process steps would be expected to impart distinctive structural characteristics to the final product ... terms such as "welded," "intermixed," "ground in place," "press fitted," and "etched" are capable of constructions as structural limitations. MPEP § 2113, 8th Ed. (Rev. 4), October, 2005 (emphasis added).

Here, the term "single molded piece" as recited in claim 1 imparts clear structural limitations on the claimed "demultiplexer." That is, claim 1 recites a "demultiplexer comprising: a single molded piece.... ." Accordingly, if the prior art fails to teach or suggest a "demultiplexer comprising a single molded piece...," as recited in claim 1, the prior art can neither anticipate nor render obvious claim 1.

Moreover, the term "single molded piece," describes a product comprised of a single piece which can only be made by the process of molding. Furthermore, the term "molded," imparts a distinctive structural characteristic to the final product, such as the terms "welded," "press fitted," and "etched," and should be construed as a structural limitation, as provided for in MPEP § 2113.

For at least the above reasons, Applicants respectfully submit that the term “single molded piece,” as recited in claim 1 defines structural limitations on the claimed demultiplexer. In addition, the term “molded” should be given patentable weight by the Examiner.

Turning to the substance of the rejection, as stated above, Kramer fails to teach or suggest at least the claimed combination including “a single molded piece comprising an integrated first section, second section, third section, and diffraction grating,” as recited in amended claim 1. Kramer teaches an optical wavelength selection apparatus, which may be used as a demultiplexer. Kramer, col. 19, lines 28-31. The apparatus 80 (see Figure 5) comprises a plurality of components, including diffraction grating 10, housing 100, and detector array 94. Diffraction grating 10 is produced from photoresist deposited on a substrate. Kramer, col. 7, lines 46-57. Diffraction grating is then incorporated into apparatus 80 and enclosed in housing 100, wherein all elements may be sealed together using epoxy or other similar sealant. Kramer, col. 13, lines 31-35; col. 6, lines 19-22; col. 19, lines 3-9; col. 20, lines 13-20. Kramer, however, fails to teach or suggest “a single molded piece comprising an integrated first section, second section, third section, and diffraction grating,” as recited in amended claim 1. Since Kramer fails to teach or suggest each and every element of claim 1, the Examiner has failed to establish a *prima facie* case of obviousness. Accordingly, Applicants respectfully request that the rejection of claim 1 under 35 U.S.C. § 103(a) be withdrawn.

If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q. 2d 1596 (Fed. Cir. 1988). Claims 2-15 depend from independent claim 1, and thus require all of the elements of claim 1. Since Kramer fails to teach or suggest each and every element of claim 1, that reference also fails

to teach or suggest each and every element required by the dependent claims. Accordingly, Applicants respectfully request that the rejection of claims 2-15 under 35 U.S.C. § 103(a) be withdrawn.

Moreover, Kramer fails to teach the claimed combination including “means for separating an input light beam into constituent parts with a molded single piece component,” as recited in claim 23. As noted above, Kramer teaches an optical wavelength separation formed using a plurality of components encapsulated in a housing using epoxy. Diffraction grating 10 facilitates the separation of the input beam, and since this is formed outside apparatus 80 and later incorporated, Kramer is silent to at least “means for separating an input light beam into constituent parts with a molded single piece component,” as recited in claim 23.

At page 8 of the Office Action, the Examiner states:

Kramer does not specifically teach wherein the above single piece component is a molded single piece ... the examiner does not give patentable weight to the process limitation ‘molded’.

Applicants disagree with this statement because the Examiner’s position does not comply with standard U.S. patent practice. As discussed *supra*, the MPEP states:

[t]he structure implied by the process steps should be considered when assessing the patentability of product-by-process claims over the prior art, especially where the product can only be defined by the process steps by which the product is made, or where the manufacturing process steps would be expected to impart distinctive structural characteristics to the final product ... terms such as “welded,” “intermixed,” “ground in place,” “press fitted,” and “etched” are capable of constructions as structural limitations.
MPEP § 2113, 8th Ed. (Rev. 4), October , 2005 (emphasis added).

Here, the term “molded single piece” as recited in claim 23 imparts a product which can only be made by the process of molding. Moreover, “molded single piece” imparts a distinctive

structural characteristic to the final product, such as the terms “welded,” “press fitted,” and “etched,” and should be construed as a structural limitation. Consistent with standard patent practice as outlined in the MPEP, the term “molded” should be given patentable weight by the Examiner.

Furthermore, Ibsen fails to cure the above-noted deficiencies of Kramer. The Examiner states that “it would have been obvious to a person of ordinary skill in the art when the invention was made to modify Kramer’s single piece component 10 and replace it with that of Ibsen et al’s molded single piece 214.” Office Action, page 8. Contrary to the Examiner’s assertion, Ibsen teaches in reference of Figure 26:

[a]n integral frame 2602 holds the gratings 214 and 216, and the focusing mirror 220. The integral frame 2602 may be machined from metal, such as aluminum, or may be precision injection molded using a plastic material ... [i]ndependent attachment of the plate provides a degree of adjustability in the alignment. Ibsen, paragraphs [0153]-[0154] (emphasis added).

Initially Applicants note that the alleged “molded single piece 214,” as asserted by the Examiner, is merely a grating. Moreover, Ibsen only teaches that the frame is integral and may be molded, and does not teach that the gratings 214 and 216 are molded. Moreover, gratings 214 and 216 are attached to plate 2608, which as cited above, is independently attached. Accordingly, Ibsen fails to teach at least the element “means for separating an input light beam into constituent parts with a molded single piece component,” as recited in claim 23. At best, Ibsen merely teaches a molded frame containing a plurality of elements which are independently attached for providing a degree of adjustability.

Since neither Kramer nor Ibsen teach or suggest each and every element recited in claim 23, the Examiner has failed to establish a *prima facie* case of obviousness. Accordingly, Applicants respectfully request that the rejection of claim 23 under 35 U.S.C. § 103(a) be withdrawn, and the claim allowed.

Applicants respectfully request that this Amendment under 37 C.F.R. § 1.116 be entered by the Examiner, placing claims 1-15 and 23 in condition for allowance. Applicants submit that the proposed amendments of claims 1-15 and 23 do not raise new issues or necessitate the undertaking of any additional search of the art by the Examiner, since all of the elements and their relationships claimed were either earlier claimed or inherent in the claims as examined. Therefore, this Amendment should allow for immediate action by the Examiner.

Furthermore, Applicants respectfully point out that the final action by the Examiner presented some new arguments as to the application of the art against Applicant's invention. It is respectfully submitted that the entering of the Amendment would allow the Applicants to reply to the final rejections and place the application in condition for allowance.

Finally, Applicants submit that the entry of the amendment would place the application in better form for appeal, should the Examiner dispute the patentability of the pending claims.

In view of the foregoing remarks, Applicants submit that this claimed invention, as amended, is neither anticipated nor rendered obvious in view of the prior art references cited against this application. Applicants therefore request the entry of this Amendment, the Examiner's reconsideration and reexamination of the application, and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account no. 06-0916.

Respectfully submitted,

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